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## INTERESTING CASE OF MEDICAL JURISPRUDENCE—POISONING BY ACONITE.*

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One of the most interesting cases of medical jurisprudence which has ever transpired in this country, occurred during the past summer in the city of Albany, N. Y. The case, apart from that general feeling of interest which is naturally excited by the occurrence of crime, mysterious and baffling in its accessory circumstances, has a claim upon our attention in two respects:—First, because it involves a discussion of the properties and effects of that most subtle vegetable alkaloid poison, aconitine, the agent charged to have been used by the prisoner in effecting the murder; and second, because the whole case exhibits an amount of ignorance and carelessness on the part of the public authorities, and of gross assumption and charlatanry on the part of the professional witnesses, which is neither creditable or flattering to our science or to humanity.

Before entering into the discussion of the evidence, a brief detail of the facts in the case is necessary. The prisoner, John Hendrickson, charged with the murder of his wife, is a native of the small town of Bethlehem, Albany County, N. Y. The parties were both young persons, the husband and prisoner being about 21 years, and of a generally prepossessing appearance; the wife, at the time of her decease, being only 19 years of age. The families of both were highly respectable; the father of the deceased, Mr. Van Dusen, having filled for a long time the office of Clerk of Albany County, and possessing considerable wealth. The parties were married in January, 1851, notwithstanding the opposition of the Van Dusens on the ground that Hendrickson's character was bad, his conduct rowdyish, and that he led a life of idleness.

In consequence of the dissipated habits of the prisoner, the parties do not appear to have lived altogether happily, and had once or twice

* Trial of John Hendrickson, Jr., for the murder of his wife by poisoning, at Bethlehem, Albany County, N. Y., March 6th, 1853. Tried in the Court of Oyer and Terminer at Albany, in June and July, 1853. Reported and compiled by David M. Barnes and W. S. Havenor, Assist. Dist. Attorney. Albany, Weed & Parsons, 1853.

separated; but at the time of the alleged crime they had again come together, and apparently under amicable circumstances. On the evening of the 6th of March, 1853 (Sunday), Hendrickson and his wife, then living at his father's, attended church with the family, a distance of about three miles. The evidence as to her health during the day was somewhat contradictory. They returned from church between 9 and 10 o'clock, P.M., after which the deceased read from the Bible and a religious newspaper, and retired to bed with her husband between 10 and 11 o'clock. According to the statement of the prisoner, they remained awake talking for about an hour, when they went to sleep. About 2 o'clock in the morning he awoke and found her insensible, and immediately aroused the family. When the family came into the room, the prisoner was occupying the back part of the bed, calling for a light. The deceased occupied nearly the centre of the bed, lying on her back in an orderly and tranquil manner. Efforts were immediately made for her resuscitation, but to no effect. Neighbors were sent for, but no physician, although she was not supposed to be dead for a considerable time after they found her. It should be stated that the reason assigned for not sending for a physician, was that none was accessible within three miles. The house occupied by the prisoner's family was one story in height, with an attic above. In this attic was the prisoner's room. The remainder of the house, which was quite small, was occupied that night by the prisoner's father and mother, his brother and wife and two sisters. None of the neighbors, who were called in, noticed anything in the room, or in the actions or conduct of the prisoner or the family, calculated to awaken the slightest suspicion.

There being no apparent cause for death, a coroner's jury was summoned on the subsequent evening, and a post-mortem ordered on the following morning (Tuesday). The examination was made by Dr. Swinburne, a physician from Albany, assisted by Drs. Ingraham and Smith, the last being the coroner.

The evidence given by Dr. Swinburne respecting the post-mortem, was as follows: "The face of the deceased was extremely pale; the lips had a bluish appearance; the features did not appear like those of a person dying of ordinary causes; there was greater pallor, the blood had forsaken the skin and cellular tissues, giving almost a transparency of countenance; the countenance appeared very calm; there was no distortion. Not knowing the deceased before death, I should say that the features were slightly swollen, otherwise I saw nothing more than we find about all dead bodies." On dissection "our attention was first called to a settling of blood in the posterior and half of the body and in the neighborhood of the hips and chest, nearly two thirds of the way round; we then noticed the extreme rigidity of the muscles. I noticed that there was not only rigidity, but elasticity about the muscles. The skin, fat and cellular tissues were as soft as the weather would permit of. The lungs and heart were healthy—the heart empty, with the exception of a small clot in the right auricle. Found the large veins (cavas) partly full; I should say not to exceed two ounces of blood, which was dark and fluid. Removed the stomach and a portion of the duodenum;

the small intestines were empty; liver and gall-bladder healthy, the latter about half full. The bladder healthy, contracted and perfectly empty. The womb was enlarged, hardened, and slightly ulcerated about the mouth. This enlargement was, I should think, full twice its natural size. There were adhesions of the womb to the small intestines, also adhesions back of the rectum. The ovaries were enlarged to twice their natural size; one of them had a small clot of blood near its centre, about half the size of a hazel nut. The spleen and pancreas were healthy.

"We then examined the brain. On laying back the skull-cap, we found the *dura mater* adhering considerably to the skull. On laying back the *dura mater*, we found the small veins of the brain full of blood; we found slight opacity in the arachnoid membrane, the result, probably, of a former inflammation. This opacity was near the top of the skull, and directly under it we found an adhesion, to a small extent, with the *pia mater*. The large veins of the brain were entirely empty, but the brain itself was not congested.

"The external surface of the stomach and intestines was slightly congested. The stomach was contracted to about two inches in diameter. Found the mucous coat very much corrugated, that is, wrinkled up, being in folds. It was congested, the small vessels being filled so as to make the surface very red. The mucous coat was also lined with a thick reddish viscid mucus. There was no appearance of bile nor any natural contents. I examined the œsophagus and found it congested. We found in the stomach two little yellow substances, about a quarter the size of a pea, of a cheesy appearance; this is all I found in the stomach and œsophagus. I should say that all of the reddish mucus which was in the stomach did not exceed two ounces; the stomach was much thicker than it should be in its natural condition. I examined a portion of the duodenum, and found it more congested than the stomach; it was redder in appearance. The mucous coat was corrugated, but less than the stomach; the duodenum was smaller than usual. There was no fecal matter in the duodenum, or any appearance of it." The quantity of mucus was small.

On the Sunday following, the body was re-examined, and the remainder of the intestines removed. There was a small amount of fecal matter in the cæcum, and a little in the colon; the rectum was healthy.

In conclusion, the witness gave as his opinion, that death was caused by *acrid poison*, from the fact of the entire emptiness of the stomach, and small intestines so far as fecal matter was concerned; also from the contraction and corrugation of the same to a great extent. The witness further testified—"I find in place of that (fecal matter) a reddish viscid mucus adhering to the coat of the stomach and intestines; the emptied condition of the gall-bladder; the appearance of the tongue, which was very much furred and slightly swollen. I inferred from this that vomiting had taken place, and that, too, induced by some acrid matter, *which would not only expel the contents of the stomach but of the small intestines, and the presence of which acrid matter would induce the vomiting.*" The testimony of the other physicians was substantially the same. Dr. Smith did not particularly notice the redness and congestion,

and Dr. Ingraham did not perceive that the face was swollen, neither does he testify particularly as to the redness of the stomach.

It would appear, therefore, that the whole amount of testimony revealed by the post-mortem, in favor of death by some unnatural cause, was congestion and redness of the stomach, œsophagus and small intestines, with an emptiness of the gall-bladder, and a few other circumstances which to the examiners would seem to indicate vomiting.

To proceed, however, with the history of the case. As the result of this examination, the prisoner was arrested, and on the 8th of March, two days after death, Dr. Salisbury, of Albany, to use the complimentary words of the prosecuting attorney, "*physician and practical chemist, and one of the most distinguished in his department of science in the State,*" received from the coroner the stomach and duodenum of the deceased, and five days after he received the remainder of the intestines, liver, lungs, &c., with a quantity of blood, about six ounces—the whole amounting to about three quarts. The chemical examination was commenced forthwith, and terminated on the 19th and 20th of March, fourteen days after death. Dr. Salisbury testified as follows:—First I took *a small portion* of the stomach, its mucous surface, and a small portion of the duodenum; tested first for prussic acid; did not detect its presence. Then tested for *some* of the mineral poisons; first, for arsenic; then for corrosive sublimate, the antimonial compounds, the mineral acids, such as muriatic, nitric and sulphuric acids; also tested for oxalic acid. Did not detect the presence of any of these. Next tested for morphine, strychnine, stramonine; also for other poisons, none of which I discovered." Upon the remainder of the mass, Dr. Salisbury then tested for aconitine, and swore, "*that in my judgment I obtained not far from the twenty-fifth part of a grain.*" How this result was obtained, we propose to show in detail.

Mainly upon this testimony, which we have briefly presented, assisted by the fact of the bad moral character of the prisoner, and some other circumstantial evidence, John Hendrickson was convicted of murder and sentenced to be executed on the 26th of August, 1853. Exceptions were taken to certain portions of the evidence, not scientific, and judgment was suspended by the higher court. Upon a review of the case, the exceptions were not allowed by the Court of Appeals, and the young man now awaits the execution of the law, which, unless otherwise prevented, will be carried into execution on the 5th of May next.

In the discussion of this case, it is not for us to inquire as to the guilt or innocence of the prisoner, although our opinion, from an unprejudiced examination of the testimony, is in his favor. With this we have nothing to do. But the great fact which stands prominent, and makes this case so marked and so interesting, is that the conviction was obtained mainly, and we may say entirely, upon the evidence of Drs. Swinburne and Salisbury, who, as scientific experts, gave opinions which cannot be sustained before any jury of chemists or physicians.

The theory of the prosecution was, that the deceased came to her death by the administration of an ounce of the tincture of aconite, forcibly administered by the prisoner after the parties had retired to their

room and bed. And it should here be stated, that the prosecution introduced evidence, tending to show that the prisoner had at one time inquired for prussic acid at a drug store in Albany, and that an ounce of the tincture of aconite had been sold by a druggist in that city to some one, a short time previous to the alleged crime. That it was the prisoner who purchased it, was not satisfactorily shown.

Aconite, or the vegetable alkaloid *aconitina*, is derived from the species of plants belonging to the genus aconitum, principally, however, from the species *napellus* and *ferox*. It is one of the least known of the vegetable alkaloids, and is considered as belonging to the class of *narcotico-acrid* poisons. The alkaloid itself is a white pulverulent substance—fusible, *non-volatile*, soluble in alcohol and ether, *scarcely soluble in water, even when the temperature is raised to the boiling point. It is destitute of odor*, and has a peculiar acrid taste. This taste, according to some writers, does not belong to the alkaloid proper, but to a principle associated with it. Cases of poisoning with this agent are extremely rare. Dr. George L. Tucker, in a paper published in the New York Journal of Medicine, March, 1854, has collected from the medical literature of all countries, fifty-three cases, only twenty-five of which resulted in death. In all these cases, moreover, with but two or three exceptions, the poison was administered accidentally, taken by mistake, or derived from eating the plants inadvertently. But one or two cases of criminal poisoning with this substance are recorded in the medical jurisprudence of Europe; and with the exception of the present alleged case, none have occurred in the United States. "Isolated cases," says Dr. Tucker, "reported in the journals, and brief notices in the various works on poisons and medical jurisprudence, constitute, for the most part, the literature of poisoning by aconite. The writings of Orfila and Raspail, the great French toxicological authorities, are singularly barren of information on this subject. The same may be said, also, of the chemical treatises of Dumas and Berzelius. Fleming, of Edinburgh, published in 1845 the only monograph on aconite which has yet appeared. This work, although standard as regards the medicinal and toxicological properties of the plants of the genus aconitum, is of no authority as regards the chemical nature and properties of the alkaloid itself, and leaves unsettled very many important questions of a medical as well as a medico-legal nature.

"The earliest symptoms* of poisoning by aconite, occur from the local effect of the poison, viz., tingling, pricking, burning or benumbing sensation in the lips, tongue and mouth; this often extends immediately to the extremities, and is felt in the skin in different parts of the body, and also along the œsophagus and in the stomach. Vomiting generally succeeds to the burning in the throat and stomach; it is usually violent, but more often diminishes in severity after the free expulsion of the contents of the stomach, unless promoted by emetics; it may, however, persist until death, and be spasmodic in its character. Vomiting may be absent, and even nausea, in fatal cases; but more often recovery takes places in such instances. This difference of effect upon the stomach

* Dr. Tucker, New York Journal of Medicine, March, 1854.

seems to depend upon the quantity and form of the preparation taken; where a large quantity of the tincture was swallowed, the vomiting was violent and continued, probably from its local irritant effect; but in other instances, when taken in small and repeated doses, its first action seems to have been upon the nervous system, causing great prostration, with no symptoms referable to the stomach. The matters ejected are noticed as being green, livid and bilious; in no instance was stercoraceous vomiting observed. Fleming denies that aconite is an irritant poison; but from the promptness with which vomiting follows the introduction of the alkaloid into the stomach, and the congested state of the mucous membrane often found after death in fatal cases of poisoning, authors are disposed to favor its irritant action. Purging is a common symptom, often severe, and attended with violent colicky pains, tenderness of the epigastrium and belly, and sense of distension of the abdomen."

As regards the nervous system, the earliest symptoms of the poison are here apparent: "these are tingling in various parts of the body, loss of sensation, cramps, tremors, great muscular debility, prostration, restlessness, sense of swelling of the tongue and constriction of the œsophagus, hurried and laborious respiration, and, progressively, convulsions, tetanic and hydrophobic symptoms, &c. In several cases it resulted in general paralysis, and in one in paralysis of the lower extremities." Christison was led by experiments to conclude "that the symptoms depend in a great measure on gradually-increasing paralysis of the muscles, which terminates in immobility of the chest and diaphragm and consequent asphyxia." Orfila regards aconite as acting particularly upon the brain, causing delirium; in this he is not sustained by statistics."

"In the plurality of cases, poisoning by aconite does not prove fatal. In fatal cases, death may take place within an hour, or be delayed until the sixth day. In a great majority of cases, however, the poison proves fatal within three hours from the time it was taken."

Of the 25 fatal cases cited by Dr. Tucker, the results of autopsical examination are given in only 11. "In these, general venous congestion was most commonly present. In 5 cases the vessels of the brain were found gorged with dark blood; in all in which the juice of the plant was taken, the *pia mater* was noticed to be highly injected with a great amount of serous effusion under the arachnoid, and at the base of the brain, but none in the ventricles. The lungs were generally congested, and in 3 cases they are recorded as being dense, hard and engorged. The heart is noticed in but 1 case, and in this the cavities of the right side were filled with dark blood, corresponding with the same condition of the lungs. The mucous membrane of the stomach is generally congested, either universally, or, which is much more often, in patches, the degree varying from mere points to a high inflammatory blush, or even a brown color. It is occasionally found empty, and in 3 cases it was distended with gas. The small intestines were observed to be in the same condition as the stomach when noted. The color is not mentioned. The rectum was found intensely injected in 3 cases, in all of which a similar condition of the œsophagus was observed."

In regard to the detection of the alkaloid poisons in the viscera after the decease of the individual, every tyro in chemistry knows that it is among the most difficult of all the laboratory operations; and even when the examination is to be instituted for the best known mineral poisons, those most frequently used, and whose properties by long study have become perfectly familiar, the conscientious professional man would hesitate long before he would consent to peril the life of a fellow being on the strength of *merely one test*, even if that was most reliable; for every one familiar with the history of medical jurisprudence knows how often the most careful have been mistaken. If this is true of the mineral poisons, with how much greater caution and hesitation should we speak of the presence of the subtle and changeable vegetable poisons, especially of one respecting which all authorities have agreed that there is no reliable and certain test. Stass, of Brussels, who has probably given greater attention to the study of the alkaloids than any other living chemist, in a recent paper published in the "Bulletin de l'Academie Royal de Medecine de Belgique," "On our knowledge of the methods of detecting the organic alkaloids," after adverting to his improved mode of analytical treatment, and assuming that the experimenter is fully posted on all the recent additions to our knowlege on the subject, expresses himself thus guardedly. "I do not pretend to say that the chemical study of the alkaloids has been sufficiently well made to enable the experimenter who has detected one of them, to know it immediately and affirm that it is such an alkaloid and no other. Nevertheless, in those cases even in which he cannot positively determine and specify, he may, perhaps, be able to say that it belongs to such a family of vegetables, as the Solanaceæ, for example."

Christison, in his notices of aconite and its properties, says, "that if any of the suspected matter be obtained in a *pure state*, its best characteristic is its remarkable taste," a test which, except as an adjunct to something more reliable, is worth nothing. Raspail, the celebrated French chemist (of whom Dr. Salisbury says, in his evidence, "that he is said to be a chemist of good authority," but whose works he has never read, although he has studied the alkaloids particularly), states "that many of the alkaloids, when introduced into the stomach, may, and often do, become so changed that they cannot be detected, and that they are also more liable to change than other organic substances. Orfila, in his "Traité de Toxicologie," vol. 2. in speaking of the tests of morphia, that best known of the alkaloids, says that unless we succeed in extracting the pure substance itself, and are enabled to verify its nature by direct experiments made on the body after its extraction, all previous indications are to be considered unreliable.

Fleming, who is quoted often as the highest authority for the physiological effects of aconite, denies that it is ever an irritant poison; and almost every other authority asserts directly to the contrary.

These remarks, we think, will be sufficient to show that the whole subject is hedged round with peculiar difficulties; that the authorities in regard to it are meagre and at variance with each other, and that all the methods of analysis known and used at the time Dr. Salisbury made his investigations were unreliable.

Let us now go back and examine the testimony of this chemist, and see upon what grounds he was enabled to speak with such remarkable confidence. We necessarily give the essential part of his testimony entire.

After stating that he had tested without success for the various mineral and vegetable poisons, he says, "I tested for *aconite*. The tests indicated *aconitine*, the poisonous principle of aconite. Took a small portion of the duodenum, digested it in alcohol over the water-bath; then filtered, evaporated the filtrate partially; the oily matter rose to the surface. This I separated by decantation, and then absorbed it from the surface by bibulous paper; *then mixed the solution with animal charcoal, agitating it for some little time after mixing; filtered, and to this solution applind my tests as follows:*

"I boiled a small portion with sulphuric acid; the solution was turned a deep port-wine-red color. I then boiled a small portion of the solution in hydrochloric acid; this turned the solution to a light port-wine-red color. Then boiled a small quantity of the solution with nitric acid; the solution remained clear, with no change of color. From these tests I inferred the presence of aconitine.

"On the 15th of March, commenced the process of analysis for the purpose of separating aconitine, if present in sufficient quantity. I divided a portion of the remaining portions of the stomach and duodenum, and their contents, the small intestines, a portion of the liver and a portion of the blood, into ten equal parts. One of these parts or portions I digested in alcohol for several hours, over a water-bath; then filtered, partially evaporated, separated the oily matter by decantation and absorption—evaporated nearly to dryness; mixed with the alcoholic extract pure caustic potassa; distilled, treated the distilled matter with dilute sulphuric acid sufficient to neutralize it; evaporated this over a water-bath; treated it with pure alcohol, between seventy-five and eighty per cent.; filtered it; evaporated it nearly to dryness; treated the residue with pure caustic potassa, and again distilled; evaporated this slightly, *and set it aside for future use.*"

It may here be remarked, that the process was undertaken on the supposition that some volatile poison or agent was present. As aconitine is non-volatile, all this treatment amounted to nothing so far as it was concerned. If it was present originally, it never was in this distillate. The testimony then proceeds:

"The other and second portion of the stomach, &c., was digested in alcohol over a water-bath for several hours; filtered, evaporated partially; separated oily matter by decantation and absorption; evaporated nearly to dryness; *treated the alcoholic extract with pure distilled water, and filtered;* evaporated the filtrate nearly to dryness; treated the water extract with dilute sulphuric acid and distilled water filtered. I then evaporated it partially; treated the solution with ammonia to a slight excess. A precipitate was formed; this was carefully washed by a small quantity of water; this precipitate was re-dissolved in dilute sulphuric acid and distilled water. *Added to this solution a small quantity of purified animal charcoal, agitating for some minutes and then filtering it;* eva-

porated this filtrate slightly at a low temperature, added ammonia in slight excess; a precipitate was formed; this I carefully washed with a small quantity of distilled water. ***This result I mixed with the result I obtained by the other process;**** *in all there was about two-thirds of a teaspoonful.* I was from the 15th to the 19th of March in getting through with this process; it was going on day and night. In testing for this matter, I placed it on my tongue; it had a bitter taste—a sparkling sensation at first, which in three or five minutes turned into numbness, producing a stiffness of the surface; the sensation produced was very much like that in the foot when it is asleep. This matter which I separated by the process just mentioned, I gave to a cat; gave it in small pieces of beef-steak. In about a *half an hour* she exhibited a choking sensation and swallowing; this was followed by a slight contraction of the muscles, twitchings which moved the limbs slightly, and this by a tendency to vomit; these spasms lasted from one to two minutes; considerable stupor succeeded; she lay down upon her side, and breathed heavily, as though she was under the influence of some narcotic; it gradually passed off, and in about three hours she was quite natural again."

On the following day, Dr. Salisbury further testified under oath, "I did not ascertain if aconitine had been procured by the process in which we distilled; the substance was mixed with that procured by the other process; I tasted of neither before they were mixed. I know that aconitine was procured from its producing the same effect upon the tongue as the tincture, and from the fact that it was obtained by the same process laid down for extracting aconitine;—got a liquid in one case and a precipitate in another; did not think it necessary to try their taste before mixing them. ***I was not sure by which process aconitine was obtained;*** of the liquid got about half a teaspoonful; do know what it was principally. I gave it to the cat; did not test it, and hence could not swear positively of what it was all composed; alcohol and water were both present;"—"***In my judgment, I obtained not far from a twenty-fifth part of a grain of aconite.***"

Such was the evidence of James H. Salisbury, upon which, mainly, John Hendrickson was convicted of murder. Before we proceed to show the utter unsoundness of this testimony, we wish to cite several facts and authorities admissible by every one, which will constitute the basis of proof of our assertions.

*First*, It is admitted by all authorities, that aconitine is non-volatile, and almost insoluble in water, even when the temperature is raised to the boiling point.

*Secondly*, Animal charcoal cannot be used in the clarifying of liquids containing the organic alkaloids in solution, especially when the alkaloid exists in small quantities, from the fact that the charcoal absorbs and retains the alkaloid. Stass, in his very able paper already referred to, says, "It is hardly necessary to say, that in medico-legal researches for the alkaloids, we ought never to use animal charcoal for decolorizing the

* The first result it will be remembered was necessarily not aconitina.

liquids, because we may lose all the alkaloid in the suspected matters. It is generally known that animal charcoal absorbs these substances, at the same time that it fixes the coloring and odoriferous matters."

Confining ourselves strictly to the chemical portion of Dr. Salisbury's evidence as given above, it will be observed that the methods of analysis followed, were first qualitative and then quantitative. He digests portions of the viscera in alcohol, filters, and decolorizes with animal charcoal. Will it be for a moment supposed, after what we have stated concerning the action of animal charcoal, that the most minute quantity of aconitine existed in the fluid after this treatment? We will, however, take the affirmative position for granted, in order to examine the validity of the subsequent tests applied. He boils the solutions with sulphuric and hydrochloric acids, and obtains light and deep port-wine colorations, and from these colorations infers the presence of aconitine. Now we assert, and challenge any proof to the contrary, that the fluids obtained by the digestion of any healthy stomach with alcohol in the manner described, and treated with acids, will give identically the same result; and while alcohol alone treated with strong acids is apt to become discolored, alcohol containing albuminous or gelatinous matters in solution (as must have been the case in this instance), treated with acids, invariably yields purpurine, and its characteristic colorations. In addition, the alcoholic solution treated with nitric acid remained clear, with no change of color. From such a qualitative examination, made on a liquid which animal charcoal had cleared of any alkaloid which might have been present originally, the presence of aconitina was inferred.

Let us now examine the quantitative treatment. And here the first point that arrests our attention is, that the experimenter had not even then made up his mind whether he had a volatile or non-volatile poison. He was certain that poison was present, and that that poison was aconitina, and yet does not know whether it is to be obtained by distillation or precipitation. So to make sure, he divides the viscera into two parts, and treats the first with alcohol, &c., and distils. The product, amounting to about one half a teaspoonful, he "set aside for future use." We feel confident that every one who will examine the course of treatment, will be satisfied that the product actually obtained, was, and could have been no other, than a salt of ammonia.

With the other portions of the viscera, the analysis was based on the assumption that the aconitina was non-volatile. The mass was digested in alcohol, filtered, and the solution "*evaporated nearly to dryness.*" This *product was* "*treated with pure distilled water, and filtered,*" and the filtrate only proceeded with. Now as aconitina is admitted to be soluble only in the slightest degree in water, even when the temperature is raised to the boiling point, it is apparent that Dr. Salisbury, by treating the "alcoholic extract, evaporated nearly to dryness, with pure distilled water," precipitated most if not all the alkaloid present, and leaving it on his filter, proceeded with the useless portion, viz., the filtrate. Can there be any escape from this conclusion?

But to proceed. The filtrate treated with ammonia gave a precipitate, which was washed in a small quantity of distilled water, and re-

dissolved in dilute sulphuric acid, *then mixed and agitated with animal charcoal*, and again subjected to filtration, when, if by any possibility, any alkaloid had continued thus far in the liquid, it was left necessarily with the charcoal upon the filter. The filtrate subjected to ammonia gave again the precipitate as before, and this, after being washed with water, was without further examination mixed with the distillate obtained before and "set aside for future use." In relation to this portion of the analysis, Dr. Salisbury testified, "I did not ascertain if aconitina had been obtained by the process in which we distilled—the substance was mixed with that obtained by the other process—laying aside the fact that aconitina is a fixed body, I cannot swear that I had procured more by one process than another. I tasted of neither before they were mixed." "My judgment is, that it did not exceed from a twentieth to a twenty-fifth part of a grain; I did not weigh it; I did not dry this precipitate; I could not have dried it without losing part of it." (It will be remarked that Dr. S. had not even then decided as to its volatility.)—"Should not judge the crystalline form so good a test as the taste. I think in drying this I should have lost full one half." * * * "After all I have seen in my search for aconitina, and of the effect produced, I will swear that *I have detected aconitina*."

As we have shown that the aconitina, if present, was unquestionably lost by the careless and incorrect method of analysis, and as a precipitate was undoubtedly obtained, it may be asked, what was this precipitate? In reply, we should say undoubtedly phosphate and lactate of lime. The analysis, as described, would give these two results, no matter what other bodies might be present. The two results mixed together, without any previous examination, without feeling certain as to the presence of the poison in either portion, was merely tasted of, and then administered to a cat. Dr. S. describes the taste as bitter, sparkling, &c. &c., exactly what might have been expected from the concentrated ammonia distillate and the precipitate subsequently obtained. Poor pussey no doubt felt and acted uncomfortably, as any sensible cat would have done from such a dose, but unfortunately for the reputation of the Dr., her nine lives were more potent, and the animal soon recovered.

On the 27th of March, Dr. S. administered to the same cat "*six drops of the tincture of aconite*," and, wonderful to relate, the animal on whom a twenty-fifth part of a grain of the pure alkaloid had made no impression, died in one hour and a half from the effect of the six drops. A post-mortem was made, and from the stomach, which had previously thrown up its contents, Dr. Salisbury swore, that on the application of analysis he found aconitina!!—derived from the six drops. —(See evidence on pages 51 and 54.) We state the facts from the reported evidence, but charity would have led us to the conclusion that the report must be incorrect, for surely judges, counsel and jury would otherwise have noticed and commented on the statement.

The conduct of Dr. Salisbury, from the first to the last in this whole matter, is strange and unaccountable, and especially so at the last, when he had succeeded in obtaining a precipitate. Here was an opportunity given for verification, which the true chemist would have rejoiced to

embrace. A body had presented itself, free and uncontaminated with foreign matters; the microscope was within reach; scientific experts were within call; tests, other than the deceptive one of taste (which in no two individuals is exactly alike), might have been applied; in short, when the whole thing could have been settled in such a way as to admit of no question, or the shadow of a doubt, we find the two results mixed hastily together, and given to a cat; and as the cat did not die, the legitimate conclusion must be that the substance administered was not aconitina.

The case further admits of consideration in another point of view, which is this:—Could Dr. Salisbury, allowing his analytical treatment to have been correct, have found aconitina under any circumstance? He testified that he procured "from a twentieth to a twenty-fifth part of a grain." The theory of the prosecution was that an ounce of the tincture was forcibly administered, which produced vomiting to such an extent that the contents of the small intestines were ejected through the stomach. The theory of the vomiting rested wholly on the opinion of Dr. Swinburne and the two other physicians, for no traces of vomiting were found by the family or neighbors. But if the vomiting really took place, how much of the fluid ounce went out from the stomach, and how much remained in that portion of the three quarts of viscera and blood upon which the chemical examination by precipitation was made? Dr. Emmons, of Albany, who gave the subject some attention, and made experiments, was of the opinion that an entire ounce of the tincture of aconite, prepared in the usual manner, would contain about one seven hundredth part of a grain. Whether the opinion is correct, we know not, and it is immaterial; but what we do know is, that no chemist, had he all the knowledge and skill of Orfila, could in the manner described by Dr. Salisbury extract from an ounce of the ordinary tincture of aconite the slightest quantity of the alkaloid. If the assertion is challenged, the means of proof are at hand—let it be done.

We close our notice of this remarkable evidence, with some extracts from a recent paper of M. Ch. Flaudin, published in *Comptes Rendus*, No. 12, 1853, on "A new method of searching for the organic poisons." The organic poison taken by Flaudin, as an illustration, is opium, and its alkaloid morphia, which is the best known and studied of all this class of poisons.

Christison expresses himself as follows in relation to opium and its derivatives, the poison which holds the first rank in the criminal statistics of England.*

"It may be established as a general rule, that in poisonings by opium and its derivatives, the medical jurist, *by the best methods of analysis at present known, can scarcely give a satisfactory proof*, and that most frequently he will be unable to give any proof at all of the existence of the poison in the matters contained in the stomach." "Repeating," says Flaudin, "the words of Professor Christison, *what are the best methods of analysis at present known* for finding opium, and in general the im-

* For the years 1837 and 1838, of which two we have accurate statistics, there were in England one hundred and eighty-six poisonings with arsenic, and one hundred and ninety-two with opium.

mediate organic principles? They consist (I will only mention them here succinctly), in treating the suspected matters either with acetic acid, or with alcohol, filtering the liquid, evaporating it to the consistence of an extract, re-dissolving this extract in water either alone or acidulated, decoloring with animal charcoal, or precipitating (as far as possible) the animal matters with divers re-agents (sub-acetate of lead, hydro-sulphuric acid, nitrate of silver, nut galls, alcohol, gelatine, or tannin), and trying, finally, on the extractive portion thus obtained, various re-agents, such for example as nitric acid and per-chloride of iron, when endeavoring to prove the immediate essentially active principle of opium, morphia. What are the results given by these methods of analysis in cases of poisoning? It must be said there are none. A chemist having asked a celebrated French toxicologist, what process should be followed for the discovery of vegetable poisons in a case of judicial inquiry into poisoning, the toxicologist replied, and conscientiously he was forced to reply—'*All investigations are useless!*' Yes, all investigations would be in vain, if we persisted in employing the methods of analysis hitherto in use. By these methods the poison is not isolated, and the re-agents do not act directly upon it, and consequently the characteristic properties are not developed."

It will be observed that these remarks of Flaudin apply directly to the process followed by Dr. Salisbury.

Other testimony having a chemical bearing, equally reprehensible, was introduced by the prosecution. A witness who ironed a certain night-dress after it was washed, which had been worn by the deceased at one time, testified that in passing the heated surface over certain portions of the dress, she was made sick, i. e., in consequence of a vapor or something equivalent arising from the same. If this proved anything, it certainly was, that the poison was not aconite, but some volatile substance—and what volatile body, that would pass off by the heat of a flat-iron, would have remained in sufficient quantity after washing to have produced any such effect? The whole statement was absurd; the bearing of it was criminal.

In regard to the testimony of Dr. Swinburne, we believe the conclusions he arrived at, were equally erroneous with those of Dr. Salisbury. We would ask, in the first place, if it were possible to pour down the throat of a strong and mature person, an ounce of the burning, acrid tincture of aconite? Would not the struggles, the screams, or at least the groans, have made the family residing in this small cottage house cognizant of the fact, and consequently accessories to the same?

Again, would vomiting sufficient to empty both stomach and small intestines occur without purging? which last we know did not happen; and could the noise of the retching and vomiting to the extent surmised be concealed from the whole family? If one has been guilty of murder, are not five or six others equally so?

As regards the inflammation of the stomach being indicative of the presence of a vegetable or irritant poison, we have before us a case of like character, which will at least show our liability to misjudge such appearances. In December, 1853, Annetta Sampier and Elizabeth

Burnham were found dead in their bed at a hotel in Newburyport, Mass. A suspicion immediately arose, from the unusual circumstance of both being found dead without apparent cause, that both had been poisoned, and the post-mortem examination seemed to confirm the surmise. The stomach, in both instances, was nearly empty, highly inflamed, corrugated and contracted. The walls were, morever, thickly coated with a red viscid mucus, and of a bright red, or scarlet color. The viscera of both were submitted to Dr. A. A. Hayes, of Boston, for a chemical examination. The emptiness of the stomachs and the excessive inflammation led him at first to the conclusion that excessive vomiting had taken place, and that death had been occasioned by the administration of a narcotico-irritant. Yet subsequent examination showed that no vomiting had taken place, and that no mineral or vegetable poison had been administered, but that death had been occasioned by an overdose of high proof alcohol, taken inadvertently in both cases.

The medical testimony in the Hendrickson case has, however, been especially examined by Alonzo Clark, M.D., Professor of Pathological Anatomy, New York, who expresses himself thus strongly in a note addressed to Prof. T. Romeyn Beck, of Albany. After a few introductory remarks, Dr. Clark says:—

"I have read the whole of the medical testimony—the most important portions of it carefully—and I cannot but confess to you, my dear doctor, that I am pained and oppressed with the conviction that the medical witnesses for the prosecution have, in a main point of this case, abused the confidence with which criminal courts so often compliment the man of science. I do not say that they have procured the condemnation of an innocent man. With the guilt or innocence of the condemned I have nothing to do; but I am fully persuaded that the inferential opinions touching both these questions, as expressed by these medical witnesses, are not warranted by the facts presented in their testimony. Had the question been—the presence of aconite in blood, stomach and tissues being admitted—do the post-mortem appearances sustain such an admission? their affirmative answer would have met with universal approval. But I understand them to assert in substance that these appearances, unaided by chemical investigation, are of themselves alone evidence of poisoning. I cannot see the grounds for such a conclusion. The condition of the stomach, intestines, gall-bladder, urinary-bladder, muscular system and face, on which this grave deduction was based, do not belong to poisoning alone. I would not criticize unjustly this testimony; yet it is perhaps right to say, that besides this hardy inference, there are two or three propositions, from the first medical witness, on page 34, that are so new to me, and at the same time so improbable, that it is difficult to persuade myself that they are correctly reported.

It is, however, no part of my present purpose to analyze this testimony. In short, then, independent of the chemical investigation, I do not find in the reported post-mortem appearances any sufficient ground for believing that Mrs. Hendrickson's death was produced by aconite or any other administered poison. I cannot see how this conclusion could be effected in any manner by the certainties that the woman did or did

not vomit, so far as its scientific relations are concerned ; but as it appears in the medical testimony that "one of the reasons for thinking that she died of poison was her having vomited," and as the husband is believed to have concealed all evidence of this effect of his crime, I can easily see that with the judge and jury the fact of vomiting may have been one of the cardinal points in the trial. The congested and contracted stomach, covered with reddish mucus, the contracted and congested duodenum, the empty state of the small intestines, the half-emptied gall-bladder, the extreme pallor of the face, the slightly swollen tongue. Submit the facts to a jury of intelligent physicians, withhold from them the knowledge of previous chemical investigation, and I believe their unanimous verdict would be that the facts afforded no evidence that vomiting had occurred before death.

"My own conviction is so strong on this point that I cannot suppress the expression of my surprise and sorrow that any respectable physician should have felt himself authorized to urge the opposite conclusion. My answer, then, to the 2d question is, that the post-mortem appearances do not, in my opinion, justify the inference that Mrs. Hendrickson had vomited during the last hours of her life. Finally, on the supposition that this poor woman did not die of poisoning, the natural inquiry is, of what disease did she die? The post-mortem examination did not enable the medical witnesses to answer this hypothetical question ; but so far as it is reported, this examination, in my view, falls far short of the completeness which the vital issues at stake demanded. It is easy to form conjectures, and in this case it is as useless as it is easy. I will therefore hint at only one. Had it occurred to the chemist to examine the blood for urea ; had the brain been examined before the thoracic vessels were cut ; had the condition of the kidneys been thoroughly investigated and their cells inspected with a microscope, it is possible—mark, I do not say it is probable—that the case might have been relieved from one of its heaviest embarrassments.

The opinions of Dr. Clark have also been publicly endorsed by Drs. March, Van Olinda, Cogswell, Hun, Armsby, Boyd, and Staats, of Albany.

At a meeting of the New York Pathological Society, April 26th, the following resolutions were offered by Dr. Metcalf :—

*Resolved*,—That the statements made by Dr. Swinburne, as printed in the report of the trial of Hendrickson by Barnes and Havenor, Albany, 1853, concerning the post-mortem appearances as described by him in the case of Mrs. Hendrickson, in no wise justify the opinion that death was preceded by vomiting, or was caused by the administration of aconite ; such appearances, especially those relating to the condition of the stomach, being often found in post-mortem examinations when no vomiting had occurred, and when no aconite had been taken before death.

"*Resolved*,—That the post-mortem examination as detailed by Dr. Swinburne, is faulty, wanting in detail as regards the condition of several important organs, and omitting altogether to examine the trachea and larynx, affections of which are known to produce sudden death."

The resolutions were seconded by Dr. C. D. Smith, and after a general expression of opinion by the members of the Society, were unanimously adopted.

With these remarks, we conclude our notice of the case, and of the evidence upon which the accused was *mainly* convicted. We believe that for inaccuracy, carelessness, and a total disregard of all the principles of scientific inquiry, it will stand unequalled in the record of modern criminal trials. In reading the evidence as given by the so-called scientific witnesses, and in noticing the self-confident manner in which they express their opinions on subjects, which, by general acknowledgment, are among the most difficult in modern science, we are reminded of the proverb—"Fools madly rush where angels fear to tread."

In the opinions and comments we have expressed concerning the chemical evidence of Dr. Salisbury, we are happy to state that we are sustained by the best chemical authorities in the country; and in order to prevent the execution of this young man, who if not innocent was at least convicted upon unreliable evidence, a paper, expressing substantially the same opinions, was prepared by Dr. A. A. Hayes, of Boston, for the Governor of New York, and signed by the following gentlemen: Drs. A. A. Hayes, C. T. Jackson, John Bacon and David A. Wells of Boston; Prof. B. Silliman, Sen., Jas. D. Dana, B. Silliman, Jr., and John A. Porter, of Yale College; Prof. John Torrey, E. N. Kent, James Chilton, and Prof. W. H. Ellet, of New York; Prof. James Lawrence Smith, of Louisville, Ky.; Profs. Gale and Schaffer of the U. S. Patent Office, together with Messrs. Bache and Henry, of Washington, and Messrs. Wurtz, Bunce and Craw, concur in the same opinion.

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## THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON, MAY 10, 1854.

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*American Association for the Advancement of Science.*—The sixth annual meeting of this Association commenced its session last week in the city of Washington. One hundred and fifty members were present, embracing, in that goodly number, gentlemen of distinction and great learning from all parts of the United States. The general meetings were held in the Smithsonian Institute. The meeting was called to order by Prof. Pierce, of Harvard University, the President of last year, who introduced Prof. Dana, of Yale College, as his successor. Prof. Dana, on taking the chair, delivered the following brief address:

"*Gentlemen of the Association,*—In taking this place with which you have honored me, permit me to allude briefly to one or two of the objects which have brought us together.

"One great end, as proclaimed in the name of the Association, is the 'advancement of science,' which implies that we are not to delay sluggishly or ignorantly over old facts, but earnestly to gather in the new, that our 'facts' be not ephemeral, which the next passer-by will dissipate, but sure eternal facts, as enduring as adamant, that shall give solidity, increasing extent and beauty to the edifice of truth. Such facts are best welcome

when least adorned, and disencumbered as nearly as may be of the rubbish of words. They reach their ultimate end when a clear insight into principles enables the philosopher to point out their exact place in the sublime system of nature, thereby to exalt our knowledge of its Divine Author.

"But there is another prominent object in view in this annual meeting. It is the cultivation of good feeling, kindly sentiments and sympathy among the lovers of science in the land; that with one aim before us—*truth*, and not self—as the end of every investigation, we may go forward harmoniously, rejoicing in each other's success, and glad for the new light we may each receive. This end alone accomplished, the meeting will have been abundantly profitable. But with success in both objects, we shall have occasion to remember long this gathering in Washington in 1854; and may such be the result."

Every attention was shown the members of this scientific body, both by the Government and by the citizens of Washington generally.

The annual election took place on Thursday, with the following result: —*President*, Dr. Torrey; *Permanent Secretary*, Walcott Gibbs; *Treasurer*, Mr. Elwin; *Recording Secretary*, Lawrence Smith.

A vote was passed to meet at Providence, on the 16th August, 1855.

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*Suffolk District Medical Society.*—The monthly meeting of this Society, for medical improvement, was held at the rooms of the Society in Phillips Place, on Saturday evening, 29th ult., Dr. Buck, the President, in the Chair. After the reading of the records of the last meeting by the Secretary, Dr. J. M. Warren, the Vice President, introduced to the members Dr. Gordon Hake, of Bury St. Edmunds, England, who delivered an elaborate dissertation upon some of the laws which govern heat in animal bodies. He advanced many new ideas concerning this vital phenomenon. He thought the theory of the lungs being the seat of combustion, ought to be abandoned. We are in hopes that the doctor will have this dissertation published, as it presents in a new light the causes of many obscure diseases. The lecturer was listened to with great attention, and at the close, a unanimous vote of thanks to him was passed. The President announced, that in accordance with a previous vote of the Society, he would appoint a member to read the dissertation at the next meeting—and Dr. Moore was accordingly appointed.

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*Meeting of the Massachusetts Medical Society.*—The annual meeting of the Massachusetts Medical Society will be held, this year, on the third Wednesday in June, in the town of Fitchburg. We take this early opportunity of calling the attention of the members to the time and place of meeting, as many of them may have forgotten it, and it is more particularly necessary that every member should be notified, in consequence of the importance of the business which is to come before the society at this time. Although we have never been an advocate for changing the place of meeting from this city, yet we are constrained to say, that it has been attended by some benefits to the society.—The town of Fitchburg, which has been selected this year for the place of meeting, possesses attractions which will make it an inducement for many members, east and south, to attend. Dr. Elisha Huntington, of Lowell, is to be the anniversary chairman, and Dr. Wm. Workman of Worcester, the orator. Drs. Boutelle, Marshall, Hitchcock, Dale, Huntley, Pillsbury, Wilder, Wadsworth and Fisher are the committee of arrangements.

We shall endeavor to effect an arrangement with the Fitchburg Railroad Company, whereby members may pass to and from the meeting at a reduced rate. In the event of such an arrangement being made, due notice will be given in the Journal.

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*N. Y. State Lunatic Asylum.*—Notice was given in a previous number of the Journal, of the receipt of the annual report of the officers of this institution; but the report having been mislaid, we have been unable to notice it further, until now. It appears there have been admitted to this Asylum since its opening in 1843, 3923 patients; of whom, 1625 have been discharged as cured, 55 much improved, 598 improved, 753 unimproved, and 446 have died. The number of patients admitted during the past year was 424, making a total of 849 under treatment in the course of the year. Of this number 169 recovered, 21 were much improved, 45 improved, 129 unimproved, and 39 died; leaving 446 remaining under treatment. Males, during the year, 466; females, 383. Intemperance, masturbation, *spirit rapping*, *dyspepsia*, and business perplexities, number the highest in the list, as the probable causes of the insanity of these patients. The managers state in their report, that in consequence of the impaired health of Dr. Benedict, the Superintendent, leave of absence was granted him for the winter, that he might have the benefit of a southern climate. During the absence of Dr. B. the charge of the institution and care of the patients devolved upon his assistant, Dr. John P. Gray, who was assisted by Dr. E. H. Van Deusen. We are happy to learn that Dr. Benedict has returned to his post with improved health, and it is hoped he may long continue in the enjoyment of it.

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*Massachusetts State Lunatic Hospital.*—The twenty-first annual report of the Trustees of the State Lunatic Hospital, at Worcester, has just been received. Accompanying it we have the report of Dr. Chandler, the Superintendent, from which it appears that there were 532 patients in the Hospital at the close of the year 1852; 288 were admitted during the year 1853, making the whole number under treatment 820. Of this number, 145 were discharged as cured: 36 improved; 41 incurable, but harmless; 37 incurable, but dangerous; and 41 died; leaving 520 in the Hospital under treatment at the close of the year. Dr. Chandler's report is very elaborate, abounding in valuable tables and statistical information relative to the cause, duration, and termination of the 4458 cases of insanity which have been received and under treatment at this Hospital since the year 1833. We should be happy to give a more extended synopsis of it, if our space were not limited.

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*United States Congress—the Discoverers of Anæsthetic Agents.*—The bill which was introduced into the Congress of the United States for the purpose of recompensing the discoverers of anæsthetic agents, recently passed the Senate, but was quashed in the House by a vote of 82 to 46. The bill appropriated $100,000 to the one who should establish his claim in the Circuit Court for the Western District of New York. As it was laid on the table in the House, it may *possibly* be taken up again at some future time.

*Hospital for Contagious Diseases.*—The Trustees of the Massachusetts General Hospital are about erecting upon their grounds, a brick building, two stories in height, for the purpose of accommodating patients affected with contagious diseases. The project is a good one, inasmuch as surgical patients have been exposed to the miasmatic influence of erysipelas and other diseases, which will now be obviated by the isolation of that class of patients in the new building provided for them.

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*American Medical Association.*—The Seventh Annual Meeting of the Association was to have taken place in St. Louis on Tuesday of last week. We have not yet (Monday morning) received any information respecting it. From the preparations which had been made by the physicians of St. Louis, and from their known character for hospitality, we have no doubt a fitting welcome was extended to the delegates.

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*Poisoning by Aconite—Execution of Hendrickson.*—The pages of the Journal to-day are nearly filled with a critical examination of the scientific evidence in a criminal case which has excited unusual interest. The favors of other correspondents have been thus crowded out. The prisoner, whose conviction was mainly effected by this evidence, was executed on Friday last, without having made, as the papers inform us, any confession.

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*Medical Miscellany.*—Dr. Bryan has been elected President of the Medico-Chirurgical Society of Philadelphia.—43 persons have died in Boston of smallpox within the last four months. During the whole of the last two years, there were but seventeen deaths from the same malady.—The Emperor Napoleon has just established a system in Paris, whereby the poor can receive gratuitous medical attendance at their own houses. One hundred and fifty-nine medical attendants have been employed for this purpose, and are to receive for their services from 600 to 1,000 francs per annum.—The Legislature of New York have appropriated $5,000 for the Ophthalmic Hospital in New York City.—Dr. Pancoast, of the Jefferson Medical College, has been appointed one of the Surgeons to the Pennsylvania Hospital.—A proposition is before the N. Y. Academy of Medicine to urge upon the civic authorities the establishment of a Bureau of Vaccination, in view of the fact that more than 500 deaths have occurred in the city from smallpox within the past few months.

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To Correspondents.—As mentioned in another place, many communications have been crowded out of the Journal to-day. Besides those which have been already acknowledged, we have received the following:—Case of Blighted Ovum; Alcohol in Medicine; "Doctors" at the West; Consultations; Alcohol.

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Died,—At East Machias, Me., Dr. William H. Tobey, aged 35 years.—In Washington, Dr. Witherspoon, aged 37.—In Philadelphia, Dr. Henry S. Patterson, aged 39.

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*Deaths in Boston* for the week ending Saturday noon, May 6th, 76. Males, 36—females, 40. Accident, 1—apoplexy, 1—inflammation of the bowels, 3—congestion of the brain, 1—burns and scald, 3—consumption, 20—convulsions, 3—croup, 4—dropsy, 2—dropsy in the head, 2—drowned, 3—infantile diseases, 6—epilepsy, 1—scarlet fever, 1—hooping cough, 1—hæmorrhage, 1—inflammation of the lungs, 7—marasmus, 2—measles, 2—mortification, 1—old age, 3—rheumatism, 1—suffocation, 1—teething, 5—thrush, 1.

Under 5 years, 37—between 5 and 20 years, 8—between 20 and 40 years, 19—between 40 and 60 years, 5—above 60 years, 7. Born in the United States, 50—Ireland, 19—England, 2—British Provinces, 4—unknown, 1. The above includes 6 deaths in the City Institutions.

*Treatment of Ulcers.*—Dr. Henry S. Patterson, in the March No. of the *Medical Examiner*, calls attention to the treatment of Ulcers of the Leg by the Chalk Ointment and tight bandage of Mr. Spender of Bath. The tight bandage, so useful in the treatment of varicose veins, is recommended here, because it is found that such a condition of these vessels, either of the main trunks or the smaller superficial veins, attends four fifths of the cases of Ulcers of the Leg, and hence come "an impeded and imperfect circulation, and impaired vitality of the tissues of the limb, and the liability to ulceration, and the difficulty of healing an ulcer when once formed. Obviously the first step in the treatment of such ulcer, is to remedy this primary morbid condition." The object in using the Chalk Ointment, is as nearly as possible to imitate the process of nature by forming an incrustation over the whole sore, and thus protect the newly forming cicatrix beneath it. The formula preferred by Mr. Spender and recommended by Dr. Patterson is as follows:—Take of Prepared Chalk, 4 lbs.; Fresh lard, 1 lb; Olive Oil, 3 oz.

"To the lard and oil melted together, the chalk should be added gradually, being first rubbed to a fine powder and passed through a sieve. The mass should then be stirred until nearly cold." Dr. Patterson adds—"in private practice, I have used an ointment prepared with the precipitated Carbonate of Lime, which is perfectly smooth." The ointment is spread about the thickness of a wafer, upon linen or cotton cloth, and applied over the whole sore, extending some distance beyond its margin. Over this the bandage should be applied by *the surgeon himself*. After a few days, if the dressing of the limb becomes again necessary, the ointment and bandage should be reapplied, without either wiping or washing the limb, so that the reparative process may not be interfered with by removing the incrustation.

"This treatment," says, Dr. P., "I can, from extended experience, confidently recommend to my professional brethren. It is applicable to all ulcers of the leg in which a varicose condition of the superficial veins constitutes the element of difficulty and delay in the cure, and these will be found (I am satisfied) to be four-fifths of all the cases that occur."—*N. J. Med. Rep.*

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*The Cholera.*—This fearful pestilence has again appeared in the United Kingdom, striking terror in all directions. In different parts of England, Scotland, Ireland, and Wales, it has as usual fixed its residence—wherever poverty and filth prevail. But its past history proves, that although the disease is first engendered by the miasmas from overcharged and ill-ventilated dwellings, as well as from accumulated and neglected filth, its destructive influences ramify and extend to the dwellings of the richer classes. In proof of which Newcastle may be mentioned, many of the cholera victims in that town being people in easy and indeed affluent circumstances. Hence it is the duty of all who have the power, to combine in one general and national effort to arrest, if not avert, the further progress of so insidious and so desolating a disease. On Saturday, the Town Council of Leeds met in the Town Hall, to adopt measures for the prevention, if possible, of the spread of the disease which had already proved fatal in different parts of the town. The meeting was fully attended by magistrates, guardians, and overseers, of the several townships; and Dr. Gavin, medical superintendent, with Mr. Lee, inspector of the General Board of Health, were present, to advise the authorities on the best course to pursue in carrying out general sanitary measures throughout the town. A resolution was adopted for the formation of a central committee for the carrying out all the necessary sanitary precautions, and a vote of thanks to Dr. Gavin and Mr. Lee, for their able and indefatigable services, concluded the day's proceedings.—*Lon. Lan.*